



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,291	07/24/2003	Daniel F. Hall	47080-00047USPT	3663
30223	7590	04/10/2006	EXAMINER	
JENKENS & GILCHRIST, P.C. 225 WEST WASHINGTON SUITE 2600 CHICAGO, IL 60606			THOMAS, BRANDI N	
			ART UNIT	PAPER NUMBER
			2873	

DATE MAILED: 04/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/626,291

Applicant(s)

HALL ET AL.

Examiner

Brandi N. Thomas

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 10-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 18 and 20 is/are rejected.
- 7) ☒ Claim(s) 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/14/03
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Detailed Action.

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of claims 1-9 and 18-20 in the reply filed on 1/17/06 is acknowledged.

### *Information Disclosure Statement*

2. Acknowledgement is made of receipt of Information Disclosure Statement(s) (PTO-1449) filed 11/14/03. An initialed copy is attached to this Office Action.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3 and 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (6858839 B1).

Regarding claim 1, Anderson et al. discloses, in figures 1-3, a cast bench for holding laser components comprising: a base (51) having a top surface (70) (col. 8, lines 64-67); and a plurality of optical component supports (100, 110, 120, and 130) cast with said base (51) and extending from said top surface (70), said optical component supports (100, 110, 120, and 130) being positioned to support optical components (101, 111, 121, 131) (col. 9, lines 43-47 and col. 10, lines 16-17, and 37-38) but does not specifically disclose the optical component supports

Art Unit: 2873

being integral with the base. It would have been obvious to modify the invention to include the optical component supports being integral with the base, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art (Howard v. Detroit Stove Works, 150 U.S. 164 (1893)). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made modify the invention to include the optical component supports being integral with the base for the purpose of eliminating additional pieces and as a result eliminating the possibility of misplacing these additional pieces.

Regarding claim 2, Anderson et al. discloses, in figures 1-3, a cast bench for holding laser components, wherein said optical component supports (100, 110, 120, and 130) are provided in a plurality of heights, in a plurality of widths, and in a plurality of areas throughout said top surface (70) of said base (51) (figure 3).

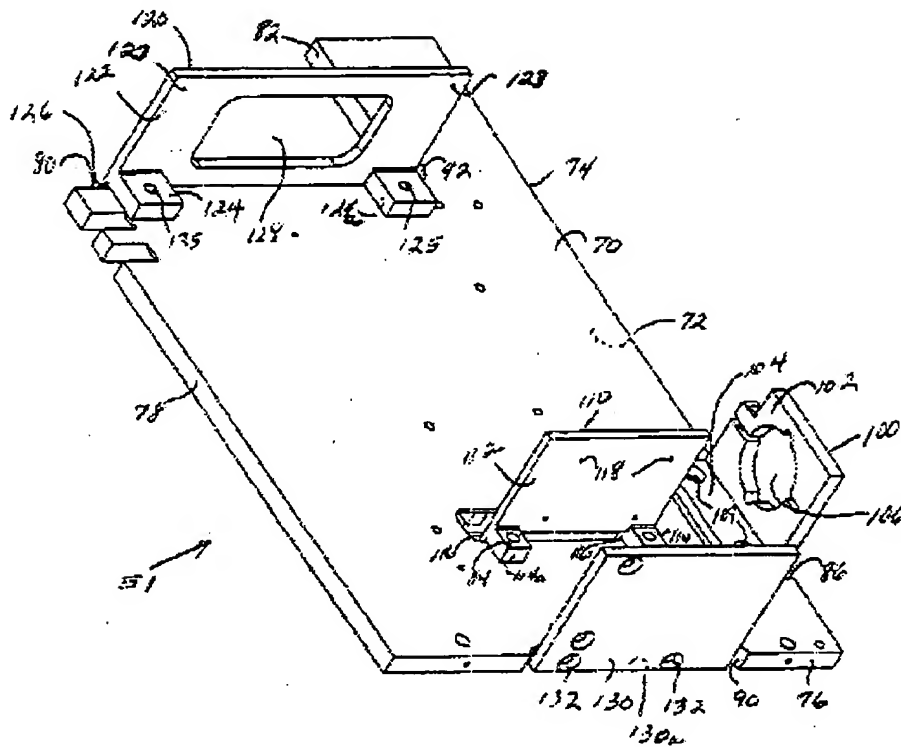


FIG. 3

Regarding claim 3, Anderson et al. discloses, in figures 1-3, a cast bench for holding laser components, wherein selected ones of said optical component supports (100, 110, 120, and 130) are customizable optical component supports (100, 110, 120, and 130), said customizable optical component supports (100, 110, 120, and 130) comprising a solid piece of material extending from said base (51) and being adapted for customization to hold specific optical components (101, 111, 121, 131) in specific positions on said bench (col. 9, lines 43-47 and col. 10, lines 16-17, and 37-38).

Regarding claim 5, Anderson et al. discloses, in figures 1-3, a cast bench for holding laser components, wherein said bench is provided with rigidity by cast support struts (104, 114, 116,

Art Unit: 2873

124, and 130a) (col. 9, lines 50-51, 66-67 and col. 10, lines 1, 20-22, and 39-42), said cast support struts (104, 114, 116, 124, and 130a) being spaced to form at least a first support region (includes 104, 114, 116, and 130a) and a second support region, (includes 124) said first support region (includes 104, 114, 116, and 130a) having support struts (104, 114, 116, and 130a) spaced more closely together than the support struts (124) of said second support region (includes 124) (see figure 3 above) but does not specifically disclose the optical component supports being integral with the base. It would have been obvious to modify the invention to include the optical component supports being integral with the base, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art (Howard v. Detroit Stove Works, 150 U.S. 164 (1893)). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made modify the invention to include the optical component supports being integral with the base for the purpose of eliminating additional pieces and as a result eliminating the possibility of misplacing these additional pieces.

Regarding claim 6, Anderson et al. discloses, in figures 1-3, a cast bench for holding laser components, wherein at least two of said optical component supports (100, 110, 120, and 130) are sized and positioned to act in concert to hold a single optical component (101, 111, 121, 131) (col. 9, lines 43-47 and col. 10, lines 16-17, and 37-38).

Regarding claim 7, Anderson et al. discloses, in figures 1-3, a cast bench for holding laser components, further comprising at least one aperture (84) cast into said bench through said top surface (70) of said base (51) (col. 8, lines 66-67 and col. 9, line 1), said aperture (84) being

Art Unit: 2873

adapted to accept conduits therethrough for connection to components mounted on said bench (col. 11, lines 66-67 and col. 12, lines 18).

Regarding claim 8, Anderson et al. discloses, in figures 1-3, a cast bench for holding laser components, further comprising at least one conduit guide beneath said top surface (70) of said bench for routing said conduits beneath said top surface (70) (col. 12, lines 1-18).

Regarding claim 9, Anderson et al. discloses, in figures 1-3, a cast bench for holding laser components, wherein a plurality of said optical component supports (100, 110, 120, and 130) are provided with threaded holes (96) therein for accepting optical components (101, 111, 121, 131) or intermediate optical component mounts (col. 9, lines 43-47 and col. 10, lines 16-17, and 37-38) (see figure 3 above and figure 2 below).

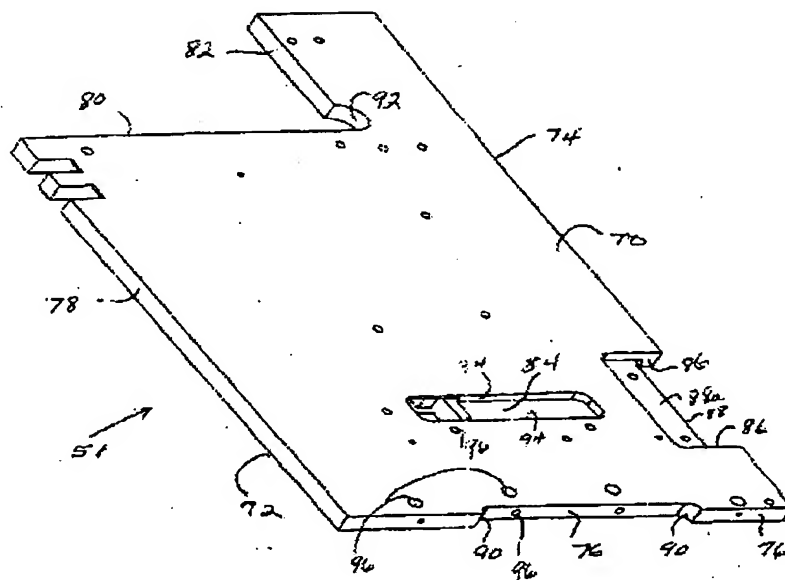


FIG. 2

Art Unit: 2873

5. Claims 4, 18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (6858839 B1) as applied to claim 1 above, and further in view of Willis (6771437 B1).

Regarding claim 4, Anderson et al. discloses, in figures 1-3, a cast bench for holding laser components, but does not specifically disclose a kinematic mount area provided in said top surface of said base, said kinematic mount area comprising a kinematic mount cone, a kinematic mount groove, and a kinematic mount flat surface. Willis discloses, in figures 2a and 2b, a kinematic mount area provided in said top surface of said base (210), said kinematic mount area comprising a kinematic mount cone (215), a kinematic mount groove (215a), and a kinematic mount flat surface (x and z mounting pads) (col. 6, lines 4-13). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Anderson et al. with the kinematic mount of Willis for the purpose of constraining the optical bench (col. 2, lines 7-14).

Regarding claim 18, Anderson et al. discloses, in figures 1-3, an optical mounting system comprising: a cast base (51) (col. 8, lines 64-67); a plurality of optical component supports (100, 110, 120, and 130) cast with said base (51) and extending outwardly from a top surface (70) of said cast base (51), said optical component supports (100, 110, 120, and 130) being positioned to support optical components (101, 111, 121, 131) (col. 9, lines 43-47 and col. 10, lines 16-17, and 37-38); a plurality of support struts (104, 114, 116, 124, and 130a) being spaced to form at least a first support region (includes 104, 114, 116, and 130a) and a second support region, (includes 124) said first support region (includes 104, 114, 116, and 130a) having support struts (104, 114, 116, and 130a) spaced more closely together than the support struts (124) of said second support



Art Unit: 2873

region (includes 124) (see figure 3 above but does not specifically disclose the optical component supports and the support struts being integral with the base. It would have been obvious to modify the invention to include the optical component supports and the support struts being integral with the base, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art (Howard v. Detroit Stove Works, 150 U.S. 164 (1893)). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made modify the invention to include the optical component supports and the support struts being integral with the base for the purpose of eliminating additional pieces and as a result eliminating the possibility of misplacing these additional pieces. Willis discloses, in figures 2a and 2b, a kinematic mount provided in said top surface of said base (210) at said first region of said cast bench (col. 6, lines 4-13). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Anderson et al. with the kinematic mount of Willis for the purpose of constraining the optical bench (col. 2, lines 7-14).

Regarding claim 20, Anderson et al. discloses, in figures 1-3, an optical mounting system, wherein at least one of said optical component supports (100, 110, 120, and 130) is a customizable optical component support cast (100, 110, 120, and 130) with addition material for machining into a customized optical component mount (col. 9, lines 43-47 and col. 10, lines 16-17, and 37-38).

*Allowable Subject Matter*

6. Claim 19 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the independent claim(s), in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in claim(s) 19, wherein the claimed invention comprises a main oscillator mounted on said kinematic mount components and a gain module mounted on said base at said second region, as claimed.

*Conclusion*

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hall et al. (JP 2005045195) discloses a cast optical bench with integral type optical component supports.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandi N. Thomas whose telephone number is 571-272-2341.

The examiner can normally be reached on 7- 4:30.

Art Unit: 2873

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on 571-272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BNT

March 25, 2006  
BNT

  
RICKY MACK  
SUPERVISORY PATENT EXAMINER